

g1
ant

MAN (VMAN). Referring now to Figure 1, wherein a block diagram overview of a MAN configuration and aggregated VLANs 120 in accordance with one embodiment of the present invention is shown. As illustrated, a MAN 100 includes a VMAN layer-2 switch 102 and/or a layer-3 router 104. Multiple customers 110, each having separate sub-VLANs, sub-VLAN 2 122, sub-VLAN 3 124, and sub-VLAN 4 126, are aggregated into super-VLAN 1 130 by a layer-2 edge switch 128 located at the edge of the MAN 100. As shown, the sub-VLANs 122, 124, and 126 are the customer-facing VLANs, whereas the super-VLAN 130 is the MAN-facing VLAN. The edge switch 128 forwards data packets originating from the customer sub-VLANs 122, 124, and 126 through the super-VLAN 1 130 and over the MAN 100 using the VMAN layer-2 switch 102 or the layer-3 router 104.

On page 8, please replace the paragraph starting on line 11 and ending on line 24 with:

q2

In one embodiment, data packets originating from the sub-VLANs may be tagged with a VLAN ID using an 802.1Q tag or other type of tagging scheme. In another embodiment, the data packets are not tagged. Either way, the edge switch 128 aggregates the sub-VLANs 122, 124, and 126 into the super-VLAN 130 by classifying the tagged or untagged packets according to the aggregated VLAN 120 configuration. The aggregated VLAN 120 configuration is typically pre-defined on the edge switch 128 by the MAN service provider, and is transparent to the individual customers whose VLANs are being aggregated. If the customer uses frame tagging, then the edge switch 128 simply verifies whether the VLAN ID specified in the data packet's 802.1Q tag is one of the configured VLAN IDs. If it is not one of the configured VLAN IDs according to the aggregated VLAN 120 configuration, then the data packet is rejected. If the data packet is untagged, then the edge switch will assign a VLAN ID to the data packet, again according to the aggregated VLAN 120 configuration.

On page 8, please replace the paragraph starting on line 25 and ending on page 9, line 7

with:

Q3 Similarly, data packets originating from the super-VLAN 130 may be tagged with a VLAN ID using an 802.1Q tag or other type of tagging scheme. In another embodiment, the data packets are not tagged. Either way, the edge switch 128 classifies the tagged or untagged packets according to the aggregated VLAN 120 configuration. If the data packet is tagged, then the edge switch 128 simply verifies whether the VLAN ID specified in the data packet's 802.1Q tag is the configured super-VLAN's VLAN ID. If not, then the data packet is rejected. If the data packet is untagged, then the edge switch will assign a super-VLAN VLAN ID to the data packet according to the aggregated VLAN 120 configuration.

On page 9, please replace the paragraph starting on line 8 and ending on line 11 with:

Q4 In one embodiment, the aggregated VLAN 120 configuration is composed of one sub-VLAN/VLAN ID for each customer and a single super-VLAN/VLAN ID. However, other aggregated VLAN 120 configurations may be employed without departing from the principles of the invention.

IN THE CLAIMS

- Q5 1. (Amended) An aggregated virtual local area network (VLAN) architecture system comprising:
- a metropolitan area network (MAN) having at least one of a router and a switch; and
 - an edge switch connecting the MAN to a super-VLAN, the super-VLAN comprising at least one of a plurality of sub-VLANs, and wherein the edge switch applies a modified bridge forwarding rule to exchange a VLAN ID associated with the sub-VLAN for a VLAN ID